arriving from a processor system present at a higher level for execution by the optimized bus connection are temporarily stored in a sequence of the arriving transaction processes, wherein,

following the first store, there is provided a first functional section for reading out, classifying, and typifying the bus transactions temporarily stored in the first store,

by means of the first functional section, those transactions that must be executed in a strictly logical sequence can be grouped respectively as a first class of transactions,

those transactions that do not have to be executed in a strictly logical sequence can be grouped respectively as a second class of transactions,

following the first functional section, there is provided a second functional section with a plurality of functional lines disposed in parallel, of which at least one functional line is allocated respectively to one of the two classes of transactions,

by means of the first functional section, depending on the result of its classification and typification of the transactions, the bus transactions can be allocated to one of the functional lines of the second functional section.

a first functional line allocated to the first class of transactions is provided with a storage structure functioning according to the FIFO principle,

a further functional line has a storage structure suitable for random accesses, and

following the second functional section, there is provided a third functional section with an execution unit common to the functional lines of the second functional section, by means of which the transactions contained in the individual functional lines of the second functional section can be organized into a serial sequence for forwarding to the processor system present at a higher level, and

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the execution unit is configured to move a transaction of the second class ahead of a transaction of the first class, depending on a state of the higher-level processor system.

6. (New) An optimized bus connection according to Claim 5, wherein,

for the second class of transactions, there is provided in the second functional section on a basis of division of transactions into two types, which are read and write transactions, an independent functional line for each.

7. (New) An optimized bus connection according to Claim 5, wherein,

for bus transactions starting from the bus connection up to the execution unit of the third functional section, there is implemented a shortcut which operates on condition that an empty state exists in the first two functional sections.

8. (New) An optimized bus connection according to Claim 6, wherein,

for bus transactions starting from the bus connection up to the execution unit of the third functional section, there is implemented a shortcut which operates on condition that an empty state exists in the first two functional sections.

9. (New) An optimized bus connection according to Claim 5, wherein,

for the first class of transactions, starting from a point of arrival in the second functional section up to the execution unit of the third functional section, there is implemented a shortcut which operates on condition that an empty state exists in the functional line allocated to the first class.

10. (New) An optimized bus connection according to Claim 6, wherein,

for the first class of transactions, starting from a point of arrival in the second functional section up to the execution unit of the third functional section, there is implemented a shortcut which operates on condition that an empty state exists in the functional line allocated to the first class.